

REMARKS

Claims 13-16, 18-20, and 22-24 were previously pending in the application. This Amendment amends claim 22. Claims 13-16, 18-20, 23, and 24 remain unchanged. Claim 13 is independent.

Entry of this Amendment is proper because it does not raise any new issues requiring further search by the Examiner, narrows the issues on appeal, and is believed to place the present application in condition for immediate allowance.

The Rejections under 35 U.S.C. § 112, second paragraph

The Office Action rejects claims 22-24 under 35 U.S.C. 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Particularly, the Office Action notes that claim 22 depends from claim 21, which was cancelled by the previous Amendment, and thus, claim 22 is indefinite.

This Amendment amends claim 22 to correct the dependency. Claim 22 particularly points out and distinctly claims the subject matter which applicant regards as the invention, thereby overcoming these rejections.

Applicants respectfully request withdrawal of these rejections.

The Claimed Invention

An exemplary embodiment of the claimed invention, as recited by, for example, independent claim 13, is directed to an electric interface for water-bearing household devices including at least one magnetic valve mounted to the circuit board in fluid communication with a liquid line of the water-bearing household appliance for controlling the flow of liquid therethrough, and at least one electronic component for controlling the at least one magnetic valve with the at least one electronic component being a valve controller embodied in a

microprocessor mounted to the circuit board and integrated into a component group that is connected to the program control.

In conventional water-bearing household devices, such as in the Richardson et al reference described below, the magnetic valves and sensors commonly are connected to the program control which is located at another location in the water-bearing household device, using a cable form and plug contacts to appropriately control the magnetic valves and sensors according to an operating sequence. The known operating controls have the disadvantage that each magnetic valve and each sensor must be separately connected to the program control. Since the positioning of the magnetic valves and sensors in the hydraulic circuits is dependent on the hydraulic or component-specific circumstances of the water-bearing household device, the contacting of the electronic, hydraulic and mechanical components of the operating control must be made using a widely branching cable form.

In stark contrast, the present invention provides an electric interface for water-bearing household devices including at least one magnetic valve mounted to the circuit board in fluid communication with a liquid line of the water-bearing household appliance for controlling the flow of liquid therethrough, and at least one electronic component for controlling the at least one magnetic valve with the at least one electronic component being a valve controller embodied in a microprocessor mounted to the circuit board and integrated into a component group that is connected to the program control, as recited in independent claim 13.

In this manner, the present invention integrates the hydraulic magnetic valves together with the electronic components required to control the magnetic valves in a component group which is connected to the program control of the water-bearing household device, thereby reducing the necessary electrical connections between the program control, the individual magnetic valves and the electronic components for controlling the magnetic valves, and providing a

modular interface between the hydraulic and the electronic area in a component group. As a result, the complexity of the cable form for the electrical connection of the hydraulic and electronic components can be reduced, thereby providing an inexpensive, flexible and modular arrangement of the hydraulic and electrical components for the operational control of the water-bearing household device.

The Rejections under 35 U.S.C. § 103

In the Office Action, claims 13-16 rejected under 35 U.S.C. § 103(a) as being unpatentable over the Richmond et al reference (U.S. 5,873,518). Claims 18-20 and 22-23 rejected under 35 U.S.C. § 103(a) as being unpatentable over the Richmond et al reference in view of the Hengelein et al reference (U.S. 2004/0140677). Claim 24 rejected under 35 U.S.C. § 103(a) as being unpatentable over the Richmond et al reference, the Hengelein et al reference, and further in view of in view of the Faunce reference (U.S. 6,319,015) and the Roese reference (U.S.. 2005/0106924).

Applicants respectfully traverse these rejections.

The Rejection over the Richmond et al reference

Claims 13-16 rejected under 35 U.S.C. § 103(a) as being unpatentable over the Richmond et al reference.

Applicants respectfully traverse this rejection.

Applicants respectfully submit that none of the applied references teaches or suggests the features of the claimed invention including at least an electric interface for water-bearing household devices including at least one magnetic valve mounted to the circuit board in fluid communication with a liquid line of the water-bearing household appliance for controlling the flow of liquid therethrough, and at least one electronic component for controlling the at least one magnetic valve with the at least one electronic component being a valve controller embodied in a microprocessor mounted to the circuit board and integrated into a

component group that is connected to the program control, as recited in independent claim 13.

As explained above, these features are important for reducing the complexity of the cable form for the electrical connection of the hydraulic and electronic components, thereby providing an inexpensive, flexible and modular arrangement of the hydraulic and electrical components for the operational control of the water-bearing household device.

The Richmond et al reference very clearly does not teach or suggest these features. Indeed, the Office Action specifically acknowledges that the Richmond et al reference lacks the teaching of these features, as recited in claim 13.

However, the Office Action alleges that the Richmond et al reference teaches that the valves are electrically coupled to the circuit board (Fig. 10, col. 7, lines 4-50). The Office Action makes the conclusory statement that it would have been obvious to have mounted the valve structure with the sensor to the circuit board in the apparatus of the Richmond et al reference to have reduced the need for coupling wire and connectors. Office Action, Pages 3-4, bridging paragraph.

Applicants respectfully submit that one of ordinary skill in the art would not have had an apparent reason to modify the disclosure of the Richmond et al reference to arrive at the claimed invention as a whole. Moreover, the Office Action does not establish an adequate rationale for making such a modification.

Appellant respectfully submits that such a conclusory statement is insufficient to provide a *prima facie* case for obviousness because the Office Action fails to provide an adequate rationale for combining the prior art as required by *KSR International v. Teleflex Inc.* 82 U.S.P.Q. 2d 1385 (2007).

"[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with

some rationale underpinning to support the legal conclusion of obviousness." (In re Kahn, 441 F.3d 977, 988 (CA Fed. 2006) cited with approval in KSR).

The Office Action fails to provide any articulated reasoning with any rationale underpinning to support a legal conclusion of obviousness. As such, the Office Action fails to present a *prima facie* case for obviousness.

The Office Action has provided no articulated reasoning to modify the teachings of the Richmond et al reference to arrive at the claimed invention, except from using Appellant's invention as a template through hindsight reconstruction of Appellant's claims.

Moreover, Appellants respectfully submit that one of ordinary skill in the art would not have modified the teachings of the Richmond et al in the manner alleged. Indeed, the Richmond et al reference has absolutely nothing to do with solving these problems.

Contrary to the assertions in the Office Action, Applicants respectfully submit that the Richmond et al reference does not teach or suggest anything at all that is even remotely related to an electric interface for water-bearing household devices including at least one magnetic valve mounted to the circuit board in fluid communication with a liquid line of the water-bearing household appliance for controlling the flow of liquid therethrough, and at least one electronic component for controlling the at least one magnetic valve with the at least one electronic component being a valve controller embodied in a microprocessor mounted to the circuit board and integrated into a component group that is connected to the program control, as recited in independent claim 13.

Instead, the Richmond et al reference merely discloses a valve body having valve actuators thereon as well as a pressure sensor formed therewith. However, the Richmond et al reference does not disclose or suggest that magnetic valves are mounted to a circuit board with the circuit board being operatively mounted to the water bearing household device. Further, the

Richmond et al reference does not disclose or suggest that there is at least one electronic component for controlling the magnetic valve mounted to any circuit board, or that the control is mounted to the valve body of the Richmond et al reference. Indeed, the Richardson et al reference would suffer from the very same problems as the conventional art as explained in the present application.

Accordingly, the Richmond et al reference does not disclose or suggest the subject matter defined by independent claim 13 including an electric interface for water-bearing household devices including at least one magnetic valve mounted to the circuit board in fluid communication with a liquid line of the water-bearing household appliance for controlling the flow of liquid therethrough, and at least one electronic component for controlling the at least one magnetic valve with the at least one electronic component being a valve controller embodied in a microprocessor mounted to the circuit board and integrated into a component group that is connected to the program control.

Applicants respectfully request withdrawal of this rejection.

The Rejection over the Richmond et al reference in view of the Hengelein et al reference

Claims 18-20 and 22-23 rejected under 35 U.S.C. § 103(a) as being unpatentable over the Richmond et al reference in view of the Hengelein et al reference.

Applicants respectfully traverse this rejection.

The Hengelein et al reference does not remedy the deficiencies of the Richmond et al reference. Indeed, the Hengelein et al reference is not relied upon for these features.

As shown in FIGS. 6 and 10, the Hengelein et al reference merely is directed to a door-locking assembly or a door latch suited for a washing machine door (see abstract).

In stark contrast to the teachings of the Hengelein et al reference, independent claim 13 recites an electric interface for water-bearing household devices including at least one magnetic valve mounted to the circuit board in fluid communication with a liquid line of the water-bearing household appliance for controlling the flow of liquid therethrough, and at least one electronic component for controlling the at least one magnetic valve with the at least one electronic component being a valve controller embodied in a microprocessor mounted to the circuit board and integrated into a component group that is connected to the program control.

As explained above, these features are important for reducing the complexity of the cable form for the electrical connection of the hydraulic and electronic components, thereby providing an inexpensive, flexible and modular arrangement of the hydraulic and electrical components for the operational control of the water-bearing household device.

The Hengelein et al reference does not remedy the deficiencies of the Richmond et al reference.

None of the applied references discloses or suggests the subject matter defined by independent claim 13.

Applicants respectfully request withdrawal of this rejection.

The Rejection over the Richmond et al reference in view of the Faunce reference and the Roese reference

Claim 24 rejected under 35 U.S.C. § 103(a) as being unpatentable over the Richmond et al reference, the Hengelein et al reference, and further in view of in view of the Faunce reference and the Roese reference.

The Faunce reference and the Roese reference do not remedy the deficiencies of the Richmond et al reference. Indeed, the Faunce reference and the Roese reference are not relied upon for these features.

Instead, the Faunce reference discloses a garment electrical connector for use with fabric, as seen in Figure 1 and as discussed in the Abstract.

The Roese reference discloses a lockable electric plug and socket connection which includes a mechanical latching mechanism as seen in Figures 6 and 7.

In stark contrast to the teachings of the Faunce reference and the Roese reference, independent claim 13 recites an electric interface for water-bearing household devices including at least one magnetic valve mounted to the circuit board in fluid communication with a liquid line of the water-bearing household appliance for controlling the flow of liquid therethrough, and at least one electronic component for controlling the at least one magnetic valve with the at least one electronic component being a valve controller embodied in a microprocessor mounted to the circuit board and integrated into a component group that is connected to the program control.

As explained above, these features are important for reducing the complexity of the cable form for the electrical connection of the hydraulic and electronic components, thereby providing an inexpensive, flexible and modular arrangement of the hydraulic and electrical components for the operational control of the water-bearing household device.

Neither Faunce reference nor the Roese reference addresses or makes up for the deficiencies of the Richmond et al reference and the Hengelein et al reference, as explained above.

None of the applied references discloses or suggests the subject matter defined by independent claim 13.

Applicants respectfully request withdrawal of this rejection.

CONCLUSION

In view of the above, entry of the present Amendment and allowance of claims 13-16, 18-20, and 22-24 are respectfully requested. If the Examiner has any questions regarding this amendment, the Examiner is requested to contact the undersigned. If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted,

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